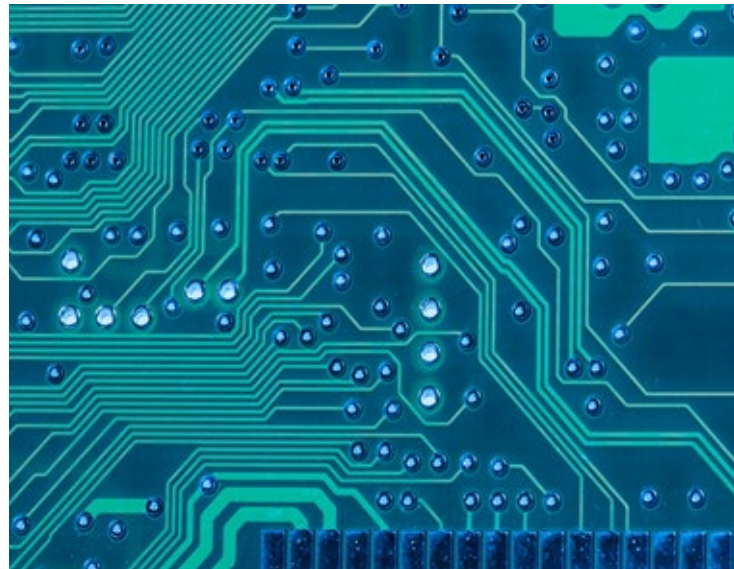




# VIRTUAL ASSESSMENT OF MUSCULOSKELETAL CONDITIONS

How to set up a program to  
meet the needs of patients



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# Background

This document has been developed as part of a Toolkit to support the use of virtual assessments across Canada for patients that present with musculoskeletal (MSK) conditions. It has been designed to address the access issue for patients who struggle to attend appointments with healthcare providers related to social, geographic and clinical factors.

## *What is included*

This Toolkit has been developed to make available the most up-to-date information on completing virtual assessments for MSK patients. It provides information on how to complete the assessment including initial consultation, follow up/ reassessments to both progress care and for final discharge. It is supported by a clinical document which provide information on how to complete the clinical assessment for different patient populations. The Toolkit is evidence-based where research has been completed, however it is acknowledged that there is limited/insufficient evidence on how to complete a virtual assessment. The technology has been used for many years in Canada, especially in remote communities, and there has been significant increase in its use related to COVID-19 restrictions. Therefore, the Toolkit reflects the experience of HCPs and is supported by data where it is available to guide decision making.

## *Who developed the document*

This document, and the accompanying clinical document, were developed with input from representatives of the health care professions who complete assessment of MSK populations:

- Orthopaedic Surgery
- Neurosurgery (involved with spine)
- Physiotherapy
- Occupational Therapy
- Rheumatology
- Sports Medicine
- Chiropractic

## *How to use the Toolkit*

The documents in this Toolkit should be used by:

- HCPs to provide guidance on completing a virtual assessment,
- policy makers to plan for future service provision; and
- researchers to identify areas where research is required to improve the validity of the assessment

## Guiding principles

The guiding principles for the development of this Toolkit were:

1. **Patient safety** – Completing a virtual interaction (assessment or treatment) with a patient means that additional work is required to ensure the safety of the patient. This Toolkit has been developed with the understanding that each health profession will meet the requirements of their provincial legislation/regulations and is working within their scope of practice and their confidence and competence to provide virtual care.
2. **Patient choice** – the patient has made the choice to participate in the virtual interaction. For some patients, the need to meet the HCP in person is critical; therefore, the option of providing a virtual assessment, or treatment, does not replace an in-person visit, if it is preferred by the patient and available with the HCP.
3. **Confidentiality** – all interactions consider patient confidentiality and utilize the appropriate privacy and security measures required under legislation.
4. **Best evidence or experience** – the documents reflect evidence where it is available and clinical experience from HCPs who have been providing virtual assessment. However as additional research becomes available, the document will need to be updated.
5. **Systems approach** – new models should be developed that include virtual care to enhance the assessment capabilities of all providers and align with in-person assessment so they can meet the needs of patients, including primary care. Where a referral to another HCP is required the models should consider a multidisciplinary approach to streamline access to the most appropriate HCP so that patients are able to access the care they need.
6. **Enhanced patient experience** – the move to virtual care has resulted in new models being developed which may have an effect on the patients' clinical care, outcomes and overall experience. These models should optimize patient access to care and enhance their experience by facilitating knowledge e.g. providing information up front and preventing duplication and unnecessary interventions.
7. **Respecting community needs** - Assessments for MSK conditions need to be completed in the context of the patients' community to ensure knowledge of local resources for appropriate follow-up and community reintegration as well as developing a trusting relationship with a provider who understands the diversity and special needs of the community. The new virtual models have the potential to limit local access to in-person care due to economies of scale which should be recognized and mitigated.

8. *Sharing to facilitate discussion and planning* – the documents have been developed to facilitate the sharing of information, experiences, and tools to enhance discussion and planning.
9. *Identifying future research opportunities* – areas of clinical practice where there is little, or no evidence will be identified as opportunities for future research.

## Technology

Completing a virtual interaction with a patient includes a number of different types of technology to support verbal, written and visual communication. In this document the following technologies are considered:

1. **Phone** – verbal contact can be used to communicate with the patient for basic administrative activities such as booking appointments. With respect to assessments, it can be used effectively to both collect sufficient clinical information to recommend treatment options for some patients and to screen patients for the need for an in-person assessment.
2. **Written communication** – written communication is required to confirm the appointment and provide documents about the assessment including consent forms and clinical documents e.g. intake forms and outcome measures. It can also be used to share information such as test results. A medium such as email is therefore required.
3. **Visual consultation** – completing a physical assessment may require the HCP to visualize the patient and their area of concern/injury. In which case the patient and assessor need to have cameras including a video camera and/or a still camera to take photographs.

All HCPs need to ensure they meet the legislation requirements for each medium of communication related to the different technology including privacy.

# Future of Virtual Assessment

## Benefits

Having the ability to provide assessments and treatments to patients using virtual technology provides significant benefits to the patients, HCP and the health care system.

### *Overall*

- Decreased exposure to infections for patients and staff.
- Improved access, specifically for patients in remote areas.
- Decreased time and money required for travel for the patient/family and the health care system.
- Provide treatment recommendations that are appropriate to the patients living environment e.g. exercises taught in the patients home ensures they have the right equipment.
- Identify issues in care including social issues that need to be addressed for successful treatment.

### *Patient*

- Time sensitive reducing the need for travel.
- Reduced need for caregiver/family support to accompany patient.
- Reduced exposure to infection.
- Help develop realistic goals.
- Help set up home treatments.

### *Health care provider*

- Multidisciplinary assessments by aligning with local practitioners.
- Recommendations reflect the reality of patients living environment.
- Information received prior to assessment.
- Opportunities to move to electronic data capture.
- Minimizes no shows.
- Time management.
- Flexibility in working location.

### *System*

- Increased patient access and reduce wait times
- Decreased space requirement
- Improved utilization of specialists
- Cost effective

## Challenges

There are a number of challenges to providing virtual care that need to be considered including:

**Technology:** reliance on technology including availability, quality and consistency of an internet connection, as well as patient and HCPs' comfort in using the technology.

**Manual tests:** inability to undertake all the necessary hands-on test(s) that may be necessary to confirm a diagnosis and/or provide treatment recommendations. As such the decision on whether to undertake the assessment virtually must be considered at the individual patient and provider level.

### **System/operational:**

1. **Set up costs:** Initial set up for virtual assessment requires a change in infrastructure and workflow that includes new equipment (e.g. screens, cameras, headsets etc.), a change in space utilization to facilitate privacy and clinical demonstration and increased administrative resources to screen patients and ensure they are prepared for the assessment.
2. **Health care provider utilization:** training and workflow considerations including clinic set up, mixed in person/virtual scheduling including the additional up-front administrative activity require.
3. **Standardization:** with the different HCP knowledge and interest in virtual care, there is the need for coordinated change management to a new model that includes standardization to ensure the validity and appropriateness of virtual care approaches to minimize unnecessary duplication and waste.
4. **Volume planning:** there is little information or experience in patient flow using virtual care that can be used for volume planning. Additional time requirements need to be anticipated to allow for delays encountered while patients sign in and establish connection, in addition to correcting lighting and positioning for optimal viewing.



# Models of MSK Assessment

MSK assessments are undertaken across the health care system for patients presenting with trauma in emergency departments to those with sports injuries and degenerative conditions. As such, patients can undergo a clinical assessment in a hospital, an office, or in a rehabilitation clinic. In the development of this document, consideration is given to where the assessment is undertaken, as well as the patients' clinical condition and their social factors to ensure they are appropriate for virtual assessment. Also considered is the HCP and the goals of the assessment including any other interventions such as the need for diagnostic imaging (DI) or treatments.

## System approach to virtual assessments

For a virtual assessment to be successful it needs to move forward the patients care. Therefore, the assessment needs to:

- provide sufficient information to make recommendations on further required testing,
- provide sufficient information to make a recommendation on treatments with the same, or an alternate HCP
- provide sufficient information to make a recommendation on the need for a referral to an alternate HCP who can better manage the condition e.g. rheumatologist or chronic pain specialist
- obtain information that will reduce the time needed for a clinical interaction in a future in-person assessment with the original HCP, or
- identify that the patient would be best managed through their primary care provider

If treatment is an option for the patient the decision on the amount of information required virtually will depend on the type of treatment being considered. There are different treatment options available for patients with MSK conditions some of which can be provided virtually and some that need to be provided in-person with either the same, or another HCP. In a coordinated system this information can be leveraged for planning to meet the needs of each individual patient e.g. based on clinical history and x rays an orthopaedic surgeon may make a recommendation for therapy through a phone assessment but the physiotherapist may need to complete an in-person assessment to plan treatment.

*Table 1: Treatment recommendations from virtual assessment*

Treatment Recommendation	Treatment Setting Required to Provide Care	Notes
<b>Education</b>	Virtual / in-person	Individual or group sessions
<b>Rehabilitation</b>		
- <b>Exercise</b>	Virtual / in-person	Individual or group sessions (as appropriate) Set up for effective home program
- <b>Manual therapy</b>	Virtual/ in-person	Some massage/self-palpation can be taught to some patients/family members Other manual techniques that are required to optimize progression need to be completed in an in-person session
- <b>Other (acupuncture, etc.)</b>	In-person	If required to optimize progression treatment needs to be completed in-person
<b>Medication</b>	Virtual / in-person	Prescription
<b>Diagnostic imaging</b>	Virtual / in-person	Prescription
<b>Purchased device e.g. braces</b>	Virtual / in-person	Off the shelf Customized will require in person for measurement
<b>Joint injection</b>	In-person	
<b>Surgery</b>	In-person	An in-person assessment may be required to decide on surgery to be performed
<b>Other professional consultation</b> e.g. weight/diet management, psychological Ax, smoking cessation, pain management/ narcotic weaning, neurological, inflammatory, other medical	Virtual / in person	Protocols as per the clinical intervention

If a need for in-person visit is determined before the assessment, for additional information, or to undertake treatment; then the benefit/use of a virtual assessment should be considered to reduce duplication and optimize the health system resources.

### *The right model for the patient*

There are a number of different models that can be used to meet the needs of the patient. The choice of the model will be dependent on the wishes of the patient to ensure they have an effective relationship with the HCP, the clinical condition as well as the resources available to the patient and the HCP.

### *Phone screening*

The patient can be screened to confirm their agreement/desire to participate in a virtual assessment, that their clinical condition is appropriate for a virtual assessment and that they have access to the technology and competence or assistance to manage it. Phone screening is also required to ensure the patient is an appropriate candidate to see the HCP and that all appropriate assessments and testing have taken place prior to the referral e.g. have completed a full assessment with their primary care provider.

### *Phone assessment*

In some situations, the patients can receive their assessment through a phone consultation including initial and follow up assessments. This is important to consider especially in cases where patients do not have access to technology, including bandwidth, to support video calls.

The phone assessment can be used where there is sufficient information collected through subjective interview, validated questionnaires and DI to decide on next steps for the patient without the need for a visual inspection. For some patients, phone assessment can identify patients that would benefit from additional assessment and recommendations by an alternate HCP. Depending on the resources available, this assessment can be done, for example, by an Advanced Practice Provider or by an appropriately qualified HCP in the patients' local community.

### *Video assessment*

Where a visual inspection of the MSK condition is required to plan for care, an assessment using video technology will need to be completed. The virtual clinical assessment can replicate many of the objective tests completed during an in-person assessment however, performing some clinical tests is not possible and this may limit the ability of the HCP to make a diagnosis and/or identify specific red flags. In which case an in-person assessment would be required.

### *Additional clinical information*

Additional document may be required such as diagnostic imaging results, reports from other HCPs and images such as photograph to provide specific visual information (e.g. wound healing). These can be requested and, wherever possible, be completed before the assessment so that results are available. In some cases, where relevant, the results can be shared with the patient, such as using a screen sharing format.

### *Assessment Recommendations*

Whatever virtual intervention is undertaken the following recommendations can be considered:

1. **Requires an in-person assessment** - in some cases the virtual assessment will screen people to identify those that require an in-person assessment with the HCP (e.g., to determine the need for surgery or medications or concerns related to red flags).
2. **Additional DI and/or other tests** - additional DI and other tests can be ordered. These tests should be appropriate for the patient's clinical condition. A test should not be ordered to replace an in-person visit. A follow up/re-assessment may be required to review test results either virtually, or in-person, as appropriate.
3. **Treatment** - a working diagnosis can be made and acted on by the HCP if it is safe. This treatment can be provided virtually or in-person as appropriate.
4. **Referral to another HCP for additional clinical information** - a working diagnosis can be made and a referral made to another HCP for additional clinical information e.g. physiotherapist. This second HCP will undertake an assessment/treatment as appropriate which can include completing additional tests to aid the final diagnosis if required. The results of the treatment can be used to plan future care or if the treatment and/or additional assessment reveals an issue then an in-person assessment can be arranged.
5. **Referral to another HCP for clinical care** - if it is identified that the patient presents with a condition that would be better managed by another HCP a referral should be coordinated. Examples include (but are not limited to) the following presentations: systemic, rheumatic, neurological or chronic pain.

### *Follow up/re-assessment*

A virtual follow-up/re-assessment is completed to get an update on the patients' clinical condition and should include reviewing any results from any tests or treatments.

The information from the previous assessment and/or treatments, which may have been undertaken in-person or virtually, should be available at the time of the assessment.

The type of technology used for the follow up/re-assessment follows the same format as for a new assessment and is dependent on the information that is required and the need for a visual inspection.

# Selecting Appropriate Patients

The decision on whether a patient is appropriate for virtual care should consider the benefits to the patient, including their social and geographic situation, and potential challenges of completing the assessment, including the use of the technology required.

Some of the main reasons for providing a virtual assessment include:

- Residing a long distance from the service.
- Unable to travel (e.g., related to medical condition, frailty).
- Lack of transportation (e.g., access to a car, remote fly-in communities).
- Lack of access to someone to accompany the patients (e.g., family member).
- Unnecessary resources required to coordinate the visit (e.g., Long-term care).
- A clinical condition/issue that causes an unnecessary increase in symptoms to travel (e.g., low back pain, recent fractures).
- Unacceptable financial and time burden for patients.

The following questions will help to understand the patients' unique situation and allow for a decision on whether a virtual assessment is appropriate or if an in-person assessment should be arranged.

## *Patient and family choice*

- Does the patient prefer to attend in-person?
- Is the patient able to attend the virtual assessment with the necessary space and equipment for an effective assessment?
- Are there logistical challenges (to family or a care home) in arranging for the patient to attend in-person?

## *Clinical factors*

- Will a virtual assessment provide all the necessary information to make recommendations on the patients care or will they have to come for an in-person visit anyway?
- Does the patient present with other physical, medical, or psychological factors that will make the virtual assessment unsafe?

- Visual or auditory impairments – patient should have any glasses and hearing aids on hand for the assessment.
  - Medical history.
  - Mobility issues – patient should have any walking aids on hand for the assessment.
  - Medications.
  - Inability to follow commands.
- For patients where safety may be an issue (e.g., risk of falls), or assistance in the physical assessment may be required (e.g., help with movements, taking photographs), is there a second person present who is competent and can assist as necessary (family member, staff of care home)
  - Can the patient communicate through virtual technology (e.g., language) and, if not, is there someone who can facilitate communication?

### *Home set up and technology*

The following needs to be confirmed to ensure the assessment can be completed virtually.

- Does the patient have access to the following technology and the knowledge (or assistance) to be able to use it effectively?
  - Audio device for phone screen/assessments
  - Device with a video camera and audio for visual assessment.
  - Access to secure internet connection at home/location of assessment.
  - Technology that allows for communication of documents and materials (e.g., email).
  - IT bandwidth and Wi Fi data to host the video call that will not pose a financial burden.
- Does the patient have access to the appropriate physical space to undertake the subjective interview and perform the movements needed to complete the assessment? (e.g., at home or another location such as a family member’s home).
  - Undisturbed – private, quiet space.
  - Safe – in good repair, non-slip surfaces.
  - Clear unrestricted to complete sufficient range of motion for appropriate joint

The space and equipment that may be required depending on the assessment includes:

- Appropriate amounts of lighting for visual assessments
- Space/surface to stand and walk 8 feet/4 metres in a straight line

- Firm chair that can be moved/repositioned e.g. dining room chair
- Chair that has no arms for UE ROM, or with arms for elbow extension and scapular stability
- Firm surface to lie on (e.g. bed, yoga mat)
- Flat wall space that has head height for standing activities e.g. shoulder movements and/or can support the chair for sit to stand activity
- Stable waist-level support for standing activities e.g. railing, furniture, counter, kitchen sink (if required)
- Mobility aids routinely used (e.g. cane)
- Upper extremity: Small weights, household items (e.g. cans, broom stick, spatula, keys, keyboard)
- Wearable technologies (if appropriate).

Additional information is included in the Clinical document.

# Preparing Your Practice

## Legal and professional

All HCPs are required to follow their respective regulatory College obligations in providing care to their patients whether this is in-person or virtual. Each professional must ensure that they are aware of the requirements for virtual care and review any documents and tools that are provided to guide and assist their care delivery.

## Privacy and security

There are privacy requirements for all communication with patients to set up the appointment through phone and email contact, as well as hosting the virtual visit through phone or visual technology.

In all cases there needs to be the ability to track communications and a system in place to review, audit and immediately address any breaches in communication.

Security considerations for email:

- Information being sent to the wrong person.
- Additional individuals included who are not authorized.
- Reply emails which include information that was not authorized for sharing.

Additional security issues to consider:

- Communication including emails that are not secure which contain personal health information.
- Security of the setting that the video takes place (visual and auditory) (e.g., mobile devices).

**Note:** Mobile devices being used by the patient or HCP require extra caution to support virtual care. This includes ensuring the communication is undertaken in a secure place where it cannot be viewed or overheard. The HCP needs to ensure all patient information on their own mobile phone is deleted, de-identified or encrypted.

Additional information about privacy, security and consent is provided in the Tool section



## Space and equipment

It is recommended that the HCPs have access to the necessary space and equipment (e.g. chair and plinth for low back and lower extremity assessments) to complete the assessment as they may be required to demonstrate the movements. They should also have available any support tools such as images of landmarks and/or joint models to help the patient with activity such as palpation. This will depend on the type of clinical assessment being completed with relevant information provided in the clinical document.

## Staffing

The use of virtual assessment will change the processes for booking patients and therefore the workflow for all staff, both administrative and clinical, whether in a hospital clinic or office. The processes need to be defined, tools need to be developed and all staff need to be educated. To ensure success consideration needs to be given to:

- Coordinator to oversee the change process including identifying and addressing any issues.
- Ensuring IT support is available to address any connection issues.
- Providing training for HCPs on how to communicate and interact with patients as well as performing the clinical assessment.

## Technology

The following technology needs to be considered when completing a virtual assessment.

Technology	Provider	Patient
Computer with camera Desktop/laptop/tablet with a monitor	Sufficient pixels to visualize the body part being assessed at a distance of 5 – 8 feet from the camera for the lower extremity	Sufficient size to show the body part being assessed (e.g. 5 – 8 feet from the camera for the lower extremity)
Additional Monitor	Option to make the visual as large as possible by connecting to a monitor or TV screen as available. May use multiple screens	If available
Microphone/headset	A device that protects the patient's personal information. This can be Bluetooth enabled to allow for	If available a Bluetooth enabled headset can be considered to help protect patients health information

	demonstration of movements/ exercises. This needs to be adapted in the learning situations with students/residents etc.	and allow for freedom to demonstrate movements/ exercises.
Platform	Use a software platform that meets the needs of your assessment. Ensure the platform meets your College requirements for privacy. Some platforms (e.g. OTN) allow you to control the patients' camera to improve your view	Access to the software through a link
<b>Clinical Tools</b>		
Goniometer	Software is available with this functionality	
Measurement	Software is available to measure distances e.g. leg length, muscle bulk	
Videos	Videos of the movements that will be required for the assessment of each body part	Review the movements to prepare for the assessment
Wearable technologies	Patient can report their exercise capacity through the use of wearable technology	Track performance to identify limitations and report changes

### *Choosing the platform*

To ensure the platform meets your needs consider the following factors:

1. Security of connection, waiting room feature and safeguards.
2. Video capabilities.
3. Number of patients (e.g. group sessions).
4. Ease of use including patient access.
5. Integration with workflow and EMR.
6. Number of devices.
7. Trial period to test.
8. Education, training, and support from vendors.
9. A function that allows for zooming in and out features including the use of a remote control so can be adjusted easily if need to demonstrate walking, standing exercises etc. (OTN allows you to zoom in and out of the patients' camera to better visualize their activity).

# Administrative Practices

## Workflow

### *Arranging the assessment*

- Confirm the patient is appropriate for the virtual assessment (as above).
- Confirm the patients' information including their phone number to communicate verbally and email for written communication. This should be their independent email and not one that is accessible by other people.
- Confirm verbally that you will send the consent forms for communication and virtual care and they need to be returned prior to the assessment (see below).
- Confirm the details of the assessment including plan, timelines, and process.
- Confirm the procedure in the case of an emergency event i.e., immediate contact, local numbers for non-emergency services.
- Send the patient materials to help them with the interaction including:
  - Letter explaining the visit.
  - Frequently asked questions.
  - Consent forms.  
**NB:** Do not include the patients identifying information (name, health card number etc.)
  - Any additional documents or links to videos to help them prepare for the assessment.
- Make sure to provide information on the appointment in the email including:
  - Link and instructions
  - Details on how to change or cancel the appointment
  - Contact should there be any issues on the day including an email and/or a contact number that will be staffed on the day of the appointment

Each HCP is required to meet their College requirements in consenting patients for treatment. Consent needs to be considered verbally and the use of written forms for:

1. Consent for communication.
2. Consent for the virtual assessment.
3. Consent for any stored video, audio, picture, data recording (if required).
4. Consent to have another individual present (if required by the patients or for a safe assessment).

**Table 2: Options for written consent**

Consent Type	Which Clients?	Written or Verbal	Documentation	Notes
Consent for Virtual Care Delivery	All Tele rehabilitation clients	Most often written to make it easier to cover the electronic delivery considerations	Best by automated intake forms, but can be by Docusign or other measure	This is a consent unique to virtual care
Consent for Therapy you are delivering	All Tele rehabilitation clients	Typically, verbal	Typically documented in the chart note, see Chart Note Template	This is just standard consent we get all the time for whatever therapy we do
Consent for Video/Audio/Picture/Data Recording	Only those clients you record	Most often written due to sensitive nature of taking recording and storing this information	If written, can again be done by automated form. If not, written copy should be kept in chart. If verbal, can use chart template note	You should know your system inside/out before doing this and know exactly where this client information is going and being stored. You should also be aware of the crossover with Privacy Legislation and ensure your systems/processes are adequate
Consent for Participation of Caregiver/Family	Only if applicable	Typically, verbal	Typically documented in chart note. See Chart Note Template	-

There are different options for consent to be available in the patient's chart including:

1. **Intake form that links directly with the EMR:** If the EMR system has this functionality then this is the easiest way to access consent as it will make sure it is automatically saved into the patient's record. It is important to review the consent prior to the assessment to ensure it is completed correctly.
2. **Integrated consent in the software:** Some software systems for virtual care have a built-in process for accessing the necessary consent forms.
3. **Secured document signing:** Tools are available such as DocuSign and DocHub that allow for secure collection of written patient consent.
4. **Email communication:** The consent form can be emailed to the patient who must sign it and return it before the assessment. The consent form can also be in an electronic place such as a website where the patient can access any necessary materials for the assessment e.g., patient educational materials

## Documents

There are a number of other documents that can be provided to patients that will enhance the experience including:

- Information about the assessment including what will be undertaken and how to prepare such as:
  - Time.
  - Space requirements.
  - Instructions on who needs to be there and what will be required.
  - Instructions to ensure privacy.
  - Clothing requirements – may need to take items off to see a joint area.
  - Shoes – should be easy to take off.
- Questionnaires for the patient to complete prior to the assessment including:
  - Subjective information (e.g., past medical history, body diagram of symptoms).
  - Validated Patient Recorded Outcome Measures.
- **NOTE**
  - Ensure all communications respect health literacy and ability to communicate in English (Grade 6).
  - All materials must be developed using professional writing with no acronyms or unexplained health professional wording.

## Assessor Location

### *Office/other*

The assessor may have the ability to complete virtual assessments from different locations such as their clinic or home office. In each case the following needs to be considered:

- The location ensures patient privacy and confidentiality.
- The technology ensures patient privacy and confidentiality.
- Consider the need for access to your own equipment to demonstrate the movements e.g., plinth for lying exercises.
- Consider documentation and access to the patients' files and/or tests.

### *Hospital clinic*

Seeing patients virtually in a clinic setting in which multiple patients are scheduled can result in delays for patients. As such instructions need to be developed on when the patient should arrive at their visit (e.g. 15 mins prior to their scheduled time to ensure they can access the platform) and how long they should wait (e.g. 60 mins after the scheduled appointment time). If the appointment will be later than the patient will be informed.

Technology support personnel may be used to ensure the patient can connect a minimum of 5 days prior to the appointment so that the appointment can be rescheduled if the virtual visit cannot be performed.

# Preparing the Patient for the Virtual Visit

## How to preparing the patient

Providing information before the assessment will prepare the patient and reduce the lost time related to technology issues, moving the camera, or having to change location or equipment. The following Information should be considered and addressed in the information shared with the patient prior to the visit:

### Technology

- The camera set up that will be required.
- Hands-free set up and ability to move the camera angle.
- Mobile phone to take photographs if required.
- Optimal lighting.

### Dress

- What they will need to wear (garments that will easily expose the area to be assessed).

### Movements and Equipment

- What positions they will need to be in (lying, sitting, or standing).
- Equipment required (chair, lying surface).
- Medical equipment e.g., walking aids, orthotics, braces.
- Any other equipment such as weights, tape measure.

### Documentation

- Patient identification as per privacy requirement.
- Medication list.
- List of tests and DI completed.
- Confirm consent forms.
- Copies of any materials to be referenced in the assessment (e.g. pictures or videos).
- Written instruction on how to deal with a dropped call/video link.

## Documentation

- Minimize the amount of documentation to be completed during the assessment by complete it in advance where possible.
- Intake forms that cover the subjective information can be provided electronically in advance and reviewed during the assessment.

- Validated questionnaires can be included as part of the package and can be completed prior to the assessment.
- Opportunities to upload the documentation directly into the patients file so that it is available at the time of the assessment.

## Practicing the movements

- Photographs and videos can be shared with patient so that they can practice and become familiar with the movements that they may be asked to perform during the examination.
- It should be clear that movements are used selectively and not all tests will be used for all patients. As such patients must consider safety and not practice tests that will put them in an unsafe position (e.g., squats for frail or non-weight bearing patients).
- Pictures and videos can be shared on how to undertake a self-palpation to identify areas of pain.



# The Virtual Visit

## HCP set up

To facilitate that the assessment progresses effectively the HCP needs to ensure that they are set up to manage the patient's needs. As such you should consider ensuring everything is set up prior to the assessment including:

- The technology is connected and is in working order (including headphones).
- Space for call (phone and video) is private with no distractions.
- For video assessment:
  - o Optimal lighting with standard background to prevent distractions.
  - o Any equipment available that you will require if you need to demonstrate movements etc.
- All the documents are available on hand so that you do not need to move away from the interaction including:
  - o Patients file.
  - o Consents.
  - o Contact information in case the video interaction is disconnected.
- Confirm that you have the completed intake form and any validated questionnaires that were sent out prior to the assessment.
- Confirm what preparatory materials have been shared in advance with the patient (e.g., videos, diagrams).
- Confirm the status of the consents.

## Communication during the assessment

Completing a virtual assessment either by phone or video requires additional communication to ensure privacy and confidentiality as well as safety and an optimum use of time. As such it is recommended that a standardized process is developed. Some suggestions are provided below to facilitate the interaction; however, this process must be modified to meet the legislative requirements of the relevant College for each health professional in each province.

### *Introduction*

- Introduce yourself formally including your title.
- Ensure it is the right patient e.g.
  - a. Confirm personal details e.g., date of birth.

b. Video assessment - have the patient show the necessary ID as per your regulatory requirements (e.g. driver's license)

### *Consent and safety*

- Confirm consent as per the HCP legislative requirements.
  - Ensure the consent to participate has been signed.
  - Confirm consent verbally.
  - Confirm any additional consent(s) are required and are in place (Consent for video/audio/picture/data recording and/or Consent for family or caregiver).
- Have the patient identify all parties that are at their location and confirm the ability to proceed.
- Confirm information in case of an emergency (e.g., address where the person is undertaking the assessment), who is there with them including their physical and cognitive capabilities, who to contact (e.g., next of kin and/or someone locally and/or information about local non-emergency services or confirm we will contact 911.)
- Confirm a phone number as back up in case of technology failure (e.g., battery dies, connection lost).

### *Patient care* (Clinical assessment is covered in the Clinical Documents)

- Confirm that the patient has received the information prior to the assessment and what will happen through the virtual assessment.
- Explain the assessment that will be completed will not be exactly the same as an in-person assessment and, if appropriate, let the patient know if there are tasks that cannot be performed.
- Confirm what treatment will be undertaken with sufficient information to ensure safety and additional interactions such as DI, tests or an in-person visit if further information is required to plan treatment.
- Review with the patient the information that was provided on the intake form they submitted prior to the assessment.
- For video consultations, if there are concerns about the patients' ability to undertake any aspects of the assessment then start the session with questions about the patients' overall wellness to determine level of safety to participate in the movements that will be required during the assessment.

### *Encouraging patient engagement*

The use of virtual assessment requires additional activity to ensure that the patient is engaged and help them to follow instructions. The following are suggestions:

- Ensure the patient has time to respond to, and to ask questions.
- Ask for confirmation throughout the interaction including asking the patient to repeat back if there are key points.
- For video assessments:
  - Look at the camera as this reinforces your engagement.
  - Use hand signals to reinforce the message (e.g., write or point to a body part that you are asking questions about).
  - Demonstrate movements so the patient can see them

### *Finishing the assessment*

- Provide the patient with the recommendations for treatment and/or follow up assessment.
- Let them know what will happen if an in-person assessment is required.
- At the end of the assessment clearly state that the assessment is complete and that you will be turning off the camera. If needed use a signal such as a wave to reinforce that you are ending the session and switching off the camera.

### *Documentation*

- The consent for the assessment including all written and verbal consents must be kept in the patient's file.
- The storage of the documentation should follow typical process e.g., paper files or EMR documentation.
- If recording of the assessment was consented to this electronic recording it must be saved in a location that meets privacy standards.

## Rehabilitation Treatment

The technology and set up for providing patient with rehabilitation treatments is the same as for the clinical assessment and needs to follow legislative and regulatory requirements.

### Patient safety

- Patient safety needs to be ensured throughout treatment.

### Home set up and equipment

- The program needs to be designed to be completed in the home with the equipment available or equipment needs to be recommended/provided depending on the condition.
- The instruction should facilitate an understanding of the program and independence in progression (as appropriate).

### Objective measurements

- Range of motion (ROM) or strength should be measured as accurately as possible if they are to be the focus of the treatment.
- ROM and strength should be measured in the same way that was described in the previous assessment to facilitate comparison.
- Small improvement may not be measurable.

### In-person treatments

- If manual treatments or other interventions that require hands-on care are required to facilitate clinical improvement then this should be arranged in-person.

## Other opportunities

The use of a virtual assessment can facilitate changes to the system to support new models of clinical care as well as education for front line HCPs to improve uptake of evidence-based practice. The following are examples of opportunities that would streamline the healthcare system.

### *1. Preparation for surgery*

Patients that are booked for elective surgery often need to undergo a pre-operative assessment by anaesthesia/nursing and can be required to attend an education session that includes information on process, rehabilitation to optimize pre-operative physical ability and post-operative care as well as ensure realistic patient expectations and consent. These interventions can be completed virtually with the education provided in group-based session where there are no limitations to the number of patients who can attend.

## *2. Education on managing symptoms during wait times for surgery*

Many patients who are booked for elective surgery are required to wait. Through this waiting time education for patients to manage their symptoms is critical so that they can remain physically active thereby improving their outcomes post-surgery. Virtual education sessions that address the needs of the clinical condition can be arranged with no limitations to the number of individuals who attend.

## *3. Post-fracture care for common stable fractures*

There are a number of fractures that are seen through the emergency department that are stable and are managed by the emergency room physician. High volume fractures include 5<sup>th</sup> metatarsal, radial head, clavicle and wrist. Typically, these patients are sent home to be brought back to a surgeons' clinic the following week. A virtual discharge clinic that includes multidisciplinary staff can be arranged to see all patients, bringing in only the patients that need specialist treatment e.g. recasting. This would also improve clinical care in the emergency department as it would standardize the approach emergency physicians would take to the management of fractures, as well as allow for improved management of chronic diseases by early identification of patients that are at risk e.g. osteoporosis for wrist fractures.

## *4. Education of students and front-line workers*

The opportunities for education for students, clinical fellows, and front-line workers such as emergency physicians to improve front line care can be coordinated by allowing the individual, with patient permission, to attend a virtual session(s).

# Appendices

## Appendix A: Email to Patient

### Sample Email to Patient for Scheduling the Virtual Visit

Dear \_\_\_\_\_

You have been referred to \_\_\_\_\_ for an assessment of your \_\_\_\_\_ by \_\_\_\_\_.

We would like to undertake this assessment virtually using \_\_\_\_\_. This will mean that you do not need to come to our clinic but we will set up a time to meet with you in your home and undertake the assessment using a camera.

1. If you wish to have this assessment you will need to have the following:
  - a. Laptop/computer/tablet with a camera with video capabilities
  - b. Sufficient data to host a video meeting for 30 minutes
  - c. LE/Spine: Space to walk in front of the camera, firm chair, firm surface to lie down
  - d. UE/neck: Firm chair

If you have the necessary IT and equipment then please:

1. Confirm that you agree by responding to this email *or other communication method*
2. Complete the documents attached (consent forms and intake forms including questionnaires) and return them to us by \_\_\_\_\_

If you do not wish to have a video assessment then let us know and we will:

- set up a phone call (provide number)
- arrange an appointment to see us in person (instruction)

#### ***Changing/cancelling***

If you need to change or cancel the appointment then call \_\_\_\_\_ or email \_\_\_\_\_

Preparing for the appointment

Information is included in the attached document on how to prepare for the assessment. Review prior to the assessment as there are a number of activities that you can undertake before the day that will help to make the assessment the best experience.

## Appendix B: Information for patients

### The Virtual Assessment

#### *Preparing for the assessment*

In order to be prepared for your virtual assessment please review the following information and ensure you have everything set up for the day and time of the scheduled assessment.

1. You will require ID (describe)
2. Clothing: Wear clothing that allows us to see the joints move in the area that you are being assessed for e.g. shorts or loose pants that can be pulled up for your lower extremity, T shirt for your arm or neck
3. Remove your socks and shoes for the assessment of the leg or low back.
4. Review any documents or videos that are provided that show you the movements you will need to complete.
5. Identify any resources, equipment (see below) or assistance you will need and ensure it is available on the day.
6. Set the camera up with you sitting in the chair in an area where you can complete the movements so you have to move around as little as possible.
7. If you need to move to another place for the walking test decide in advance where you are going to set up the camera and/or have another person to help you with the camera angle
8. Ensure that there is good lighting wherever you are going to be undertaking the assessment. Try not to point the camera towards a window or directly at a light as background light makes it difficult to see

#### *The day of the assessment:*

- Have your ID and copies of your submitted intake documents.
- Have the name and contact information of someone local in case of an emergency, or be prepared to discuss it with your assessor.
- Have the following items close by:
  - Sturdy chair (no wheels) near a table
  - Walking support (walker, cane)
  - Braces or slings
  - Equipment:
    - Strap, belt, long towel/sheet, moderate weights (approx. 5 lbs), steps
    - Any therapy equipment e.g. Resistance band.
    - Paper and pen to take notes
- If you require someone else to be present to ensure safety make sure they are in attendance.

***Tips for success:***

- It is a good idea to connect 10 minutes early before the planned visit
- Shut down other programs on your device not needed for this visit
- Prepare your space so you can be hands-free. A laptop is easier to position the screen angle; use it if you have one
- If someone else is present, ask them to be the 'camera person' for things we may need to see, such as how you walk and bend your knee

***What to do if there is a problem with the connection***

- If the connection is dropped, during the session, then \_\_\_\_\_.
- If we cannot re-establish connection then call \_\_\_\_\_, or email \_\_\_\_\_ to resolve or to re-schedule the assessment



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## Appendix F: References

